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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,682	07/20/2006	Reinhold J. Leyrer	293590US0PCT	6542
22850	7590	11/28/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CHIN, HUI H	
			ART UNIT	PAPER NUMBER
			4131	
			NOTIFICATION DATE	DELIVERY MODE
			11/28/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/586,682	<b>Applicant(s)</b> LEYRER ET AL.	
	<b>Examiner</b> HUI CHIN	<b>Art Unit</b> 4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-9,11-12,14,15,20,21 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 6,10,13,16-19 and 22-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/20/2006</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 3 recites the broad recitation 80 mol %, and the claim also recites 60 mol % which is the narrower statement of the range/limitation.

***Claim Rejections - 35 USC § 102***

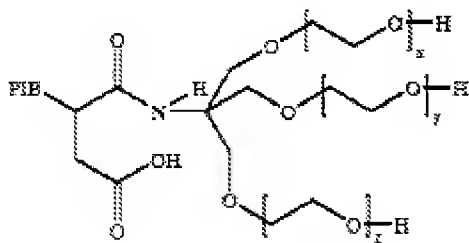
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 7, 9, 11-12, 14, 20, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Huffer et al. (US 2005/0090611).

Huffer et al. disclose an oil-in-water emulsion which contains a) one or more of amphiphilic compounds which are composed of a hydrophobic compound which is formed from a polyisobutylenes which have a high content of terminal double bonds ( $\geq 70$  mol %), and a hydrophilic compound, b) oil, and c) water (claims 24, 44; [0001]; [0011] - [0029]; [0101]; [0136]).



The limitations of claim 2 can be found in Huffer et al. at paragraph [0132], where it discloses 0.2 to 10% by weight of at least one amphiphilic polymer.

The limitations of claim 3 can be found in Huffer et al. at paragraph [0101], where it discloses polyisobutylenes having  $\geq 70$  mol % of terminal double bonds.

The limitations of claims 4-5 can be found in Huffer et al. at paragraph [0097], where it discloses the hydrophilic unit is ethylene oxide.

The limitations of claim 7 can be found in Huffer et al. at paragraphs [0079] – [0080], where it discloses the functionalization of polyisobutene with polar groups.

The limitations of claim 9 can be found in Huffer et al. at paragraphs [0011] – [0016], where it discloses the reaction of polyisobutenes with alkylene oxides.

The limitations of claim 11 can be found in Huffer et al. at paragraph [0201], where it discloses the AB structure.

The limitations of claim 12 can be found in Huffer et al. at claim 44 and paragraph [0042], where it discloses blends of amphiphilic polymers.

The limitations of claim 14 can be found in Huffer et al. at paragraphs [0132] and [0201], where it discloses 0.2 to 10% by weight of at least one amphiphilic polymer having the AB structure.

The limitations of claim 20 can be found in Huffer et al. at Example 1 and paragraphs [0011] - [0043], where it discloses the process for the preparation of aqueous polymer dispersions.

The limitations of claims 25-27 can be found in Huffer et al. at paragraph [0187], where it discloses the application in paint systems and coating systems.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huffer et al. (US 2005/0090611) in view of Lange et al. (US 2004/0171759).

Huffer et al. disclose an oil-in-water emulsion which contains a) one or more of amphiphilic compounds which are composed of a hydrophobic compound which is formed from a polyisobutylenes which have a high content of terminal double bonds ( $\geq 70$  mol %), and a hydrophilic compound, b) oil, and c) water (claims 24, 44; [0001]; [0011] - [0029]; [0101]; [0136]).

Huffer et al. are silent on the functionalization of polyisobutenes.

Lange et al. disclose the functionalization of polyisobutenes ([0019] – [0028]) to provide a polymer composition which has good mechanical properties and/or good interfacial properties, is easy to process and is stable to demixing ([0006]). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the functionalized polyisobutenes in the disclosure of Huffer et al. with the expected success because Lange et al. has demonstrated that the functionalized polyisobutenes can be used to achieve the improved properties.

The limitations of claim 8 can be found in Lange et al. at paragraphs [0019] - [28], where it discloses the functionalization of polyisobutenes.

6. Claims 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huffer et al. (US 2005/0090611) in view of Allgaier et al. (US Patent 6,677,293).

Huffer et al. disclose an oil-in-water emulsion which contains a) one or more of amphiphilic compounds which are composed of a hydrophobic compound which is formed from a polyisobutylenes which have a high content of terminal double bonds ( $\geq 70$  mol %), and a hydrophilic compound, b) oil, and c) water (claims 24, 44; [0001]; [0011] - [0029]; [0101]; [0136]).

Huffer et al. are silent on the molecular weight of the hydrophilic unit.

Allgaier et al. disclose the block copolymer having a water-soluble block and a water-insoluble block (col. 2 lines 1-2) wherein the molecular weights of hydrophobic and hydrophilic blocks are between 500 and 60,000. Allgaier et al. further disclose that the resulting block copolymer raise the efficiency of surfactants and reduce the interfacial surface tension between water and oil (col. 1 lines 47-50). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the block copolymer disclosed by Allgaier et al. with the expected success because Allgaier et al. has demonstrated that such block copolymer can be used to improve the properties.

The limitations of claims 15 and 21 can be found in Allgaier et al. at claim 1 and col. 2, lines 21-22, where it discloses the molecular weights of hydrophobic and hydrophilic blocks are between 500 and 60,000.

### ***Allowable Subject Matter***

7. Claims 6, 10, 13, 16-19, and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of the record do not teach or fairly suggest the claimed amphiphilic polymer having at least one triblock copolymer of the structure ABA constructed from polyisobutene functionalized with succinic anhydride groups (PIBSA) as hydrophobic unit A and of polyethylene oxide as hydrophilic unit B [claims 10, 13, 16-19, and 22-24] or the claimed aqueous polymer dispersion comprising the use of monoaminoethylene oxide, diaminoethylene oxide, or monothioethylene oxide [claim 6].

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUI CHIN whose telephone number is (571)270-7350. The examiner can normally be reached on Monday to Friday; 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 4131

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/  
Primary Examiner, Art Unit 1796

HC